Research paper

# Screen time of toddlers in Paris suburbs: Quantitative and qualitative analysis

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## ARTICLE INFO

## ABSTRACT

*Background:* Our aim was to describe the exposure of French children aged 12−36 months to screens (time, content, age of first exposure) and to analyze different moderating factors: sociodemographic data, parents' screen time, and other factors (childcare arrangements, language spoken at home, book reading).
*Population and Methods:* We conducted an observational, cross-sectional, descriptive and analytical study based on 171 questionnaires from parents of children aged 12−36 months who consulted different hospitals in the Paris region during the summer of 2020.
*Results:* The median screen time was 1 h per day and was essentially television time. The median age of first exposure for children was 12 months. Among the most-watched sites, YouTube was in first place. One third of the children chose the content they watched alone, and the majority did so without any parental guidance (66%). Children watched a screen during mealtime every day in 25% of cases, before bedtime in 12.3% of cases, and 8.8% had a screen in their bedroom. More than one third of families left the television on in the background most of the time. In the multivariate analysis, a high level of screen time was notably linked to the child's age, the parents' screen time, and background television. However, the parental reason for exposure "to calm the child" was the most strongly correlated factor with significant child screen time. Reading books appeared to be a determining factor for less screen exposure.
*Conclusion:* These results emphasize the importance of raising parents' awareness about the potential negative effects of screen exposure (particularly on children's cognitive and emotional development) as early as possible during the maternity period. Implementing this prevention in the maternity wards could be an effective way of informing and educating parents about the potential negative effects of screen time on their child's development.

## 1. Introduction

In recent years, technological advances have significantly changed our relationship with screens: the arrival of "mobile" and then "smart" phones, "interactive" tablets, "connected" television, as well as the acceleration of Internet connection with "high-speed" or even "very high-speed" connection enabling video streaming, and finally, the extension of access possibilities "anytime, anywhere" thanks to 4 G and, soon, 5 G technology. With their miniaturization and the diversification of their potential uses, screens have become indispensable. The amount of time spent using them is constantly increasing, to the point of invading the daily lives of adults and children alike. This time, which is increasingly "stolen" from other time essential to the child's development (playing, communicating, moving), combined with the growing unavailability of parents who are caught up in their own screens, is not without consequences: Various cross-sectional and longitudinal studies have shown significant associations between high screen time—for children and their parents—and sleep disorders, obesity, mood disorders, attention disorders, language delays, or social interaction disorders that can be severe [1–6].

As a result, the World Health Organization and various learned societies recommend avoiding all exposure to screens for the youngest children (2 or 3 years of age, depending on the case) and some suggest limiting exposure to screens for children aged 2−5 years to less than 1 h per day [7,8]. Despite these recommendations, international surveys show that children are increasingly in front of a screen [9,10]. This screen time is in fact quite difficult to assess in real terms because digital uses are diversifying: Time spent in front of the television in "real time" is decreasing, but online television time (and

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JID: ARCPED [m5G;October 4, 2023;3:59]

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replay) is increasing, as is the time spent using a smartphone or using several screens simultaneously.

In France, data on screen time for very young children are scarce or already outdated: A study by the French neonatal cohort ELFE assessed the screen time of French children aged 2, but it was in 2013, when 4 G was only in its infancy and the appearance of the tablet was very recent [11]. Current data on screen time for very young children in France are available, but they come from surveys conducted by private polling firms, and the methodology of these surveys is not always transparent [12,13].

The main objective of our study was to describe precisely the exposure of French children aged 12−36 months to screens. The secondary objective was to analyze this exposure time according to various factors: the family's sociodemographic factors, the parents' screen use time, the reasons for the child's screen use, knowledge of prevention messages, and various other factors (childcare arrangements, language spoken at home, book reading).

## 2. Methods

### 2.1. Study participants

This cross-sectional, descriptive and analytical observational study was conducted among parents of children aged 12−36 months during their time in the waiting room of the outpatient clinics of General Pediatrics, Maternity and Pediatric Emergencies of the Jean-Verdier (Bondy), Robert-Debre (Paris) and Armand-Trousseau (Paris) hospitals. There are approximately 15 outpatient pediatric units in the Paris region. Children suffering from chronic diseases were not included because their pathology could constitute a selection bias.

### 2.2. Questionnaire development and data collection

There was no validated questionnaire in French for measuring screen time, and therefore a questionnaire was developed specifically for this study. It was inspired by different questionnaires published or already used in daily clinical practice. This work was approved by the Ethics Review Committee of the Robert Debré Hospital. A single investigator interviewed the parents and completed the questionnaire between June 11 and August 1, 2020, following the COVID-19 confinement period in France (March 17 to May 11, 2020).

### 2.3. Statistical analysis

Based on the first results of the questionnaire, a median of the children's exposure time to screens was calculated. We allocated children with screen time below the median into a group called "less exposed" and children with total screen time above or equal to the median into a group called "more exposed."

The qualitative variables are described in terms of numbers and percentages. To compare the two groups, Pearson's chi-square test was used when the number of participants was equal to or greater than 5 and the Fisher−Freeman−Halton exact test was used when the number of people was less than 5. The quantitative variables are described as mean and standard deviation when the distribution followed the normal distribution and as median and interquartile range in other cases. To compare the two groups, a $t$-test was performed when the distribution followed the normal distribution and the Mann−Whitney $U$ test in the other cases. The significance level was set at $p<0.05$.

A univariate logistic regression analysis was performed to identify factors associated with screen exposure. Odds ratios (OR) and their 95% confidence intervals (CI95%) were used to assess the association between screen exposure time and potential factors. All variables that were statistically significant in the univariate analysis were then included in a multivariate analysis, with a stepwise selection using

the Wald method. Finally, the Hosmer and Lemeshow quality test was used to determine how well the model fit the observed data. Statistical analysis of the data was performed using SPSS v27 (Statistical Package for the Social Sciences) and STATA v15.0 (StataCorp, College Station, TX, USA).

## 3. Results

### 3.1. Sample characteristics

Overall, 200 parents or caregivers, waiting in the different hospital waiting rooms, were initially questioned but only 171 questionnaires were fully completed (82% by mothers): 27 requests for questionnaires were not accepted for different reasons (20 because the parents were not "available," three parents refused, three were not interested, and two were non-French speakers), two questionnaires could not be fully completed. The median age of the children included in the study was 26 months (52% were girls). In the majority of cases (61.4%), the children were looked after by their parents and in one third of cases (35.1%) by a daycare center. The other characteristics of the total population and of the two subgroups "less exposed" and "more exposed" are detailed in Tables 1 and 2.

### 3.2. Descriptive analysis

Only 16 parents reported that their child did not watch any screens. The median age of first exposure of the other 155 children was 12 months and the median time of exposure at 2 years reported was 1 h. A total of 78 children (45.6%) were exposed for less than 1 h per day ("less exposed" group), while 93 children (54.4%) were exposed for at least 1 h per day ("more exposed" group). The screen most watched by children was television, followed by the smartphone. Among the most watched sites, YouTube was in first place (66.1%), followed by Gulli (28.7%) and Netflix (19.9%). In total, 25% of the children watched a screen during mealtime "often or almost every day," 12.3% watched a screen before bedtime, and 8.8% had a screen in their bedroom. More than one third of families (35.6%) left the television on in the background "often" or "almost every day."

One quarter of these young children (27.3%) chose alone what to watch "every day or almost every day." Less than half of the parents (44.2%) said that they commented "every day or almost every day" on the images they saw with their child on the screen.

The median total screen time reported by parents was 3 h per day, with 75% of parents spending between 2 and 5 h per day in front of a screen. The smartphone was the most used screen with an estimated median of 2 h per day (75% of parents spending between 1 and 3 h per day). The television was the second most used screen with a median time of 1 h per day.

Parents said they put their children in front of the screen to "do something else" (39.8%), "calm them down" (38.0%), "help them eat" (15.8%), but also to "develop their awareness" (38.6%), "learn a language" (20.5%), "chat with the family" (24.6%), and "play" (16.4%). Overall, 57.9% of parents answered that they often or almost every day read books to their children.

### 3.3. Factors associated with screen exposure

#### 3.3.1. Univariate analysis

The sociodemographic factors associated with screen exposure are detailed in Table 1. A significant increased risk of being in the most exposed group was associated with the age of the child, the mother's and father's level of education, and the mother's working time (when the mother does not work, the child is more exposed to screens). The type of childcare was diversely associated with screen exposure: A protective effect of daycare was observed and, conversely, a deleterious effect of home care by a non-licensed person. A

**Table 1**
Univariate analysis: sociodemographic factors associated with screen exposure.

| Explanatory variables | Total $n = 171$ | Time <1 h $n = 78$ (45.6%) | Time ≥ 1 h $n = 93$ (54.4%) | $p$ | Gross OR (95% CI) |
|---|---|---|---|---|---|
| **Child's age in months** | 26 (19−33) | 22 (16−28) | 30 (22−35) | <0.001**** | 1.10 (1.05−1.14) |
| **Child's gender** | | | | 0.27* | |
| Male | 89 (52.0%) | 37 (47.4%) | 52 (55.9%) | | 1 |
| Female | 82 (48.0%) | 41 (52.6%) | 41 (44.1%) | | 0.71 (0.39−1.30) |
| **Childcare** | | | | | |
| Daycare | 60 (35.1%) | 39 (50.0%) | 21 (22.6%) | <0.001* | 0.29 (0.15−0.56) |
| Drop-in center/playgroup | 8 (4.7%) | 1 (1.3%) | 7 (7.5%) | 0.07** | 6.27 (0.75−52.10) |
| Registered childminder | 8 (4.7%) | 5 (6.4%) | 3 (3.2%) | 0.47** | 0.49 (0.11−2.11) |
| Infant school | 2 (1.2%) | 0 (0.0%) | 2 (2.2%) | 0.50** | 1.385E+9 (0.00-). |
| Home-based or unlicensed nanny | 11 (6.4%) | 7 (9.0%) | 4 (4.3%) | 0.23** | 0.46 (0.13−1.62) |
| Parents | 105 (61.4%) | 38 (48.7%) | 67 (72.0%) | <0.01* | 2.71 (1.44−5.12) |
| Grandparents | 10 (5.8%) | 3 (3.8%) | 7 (7.5%) | 0.35** | 2.04 (0.51−8.15) |
| **Mother's education** | | | | 0.03* | |
| Primary | 18 (10.5%) | 6 (7.7%) | 12 (12.9%) | | 1 |
| Secondary | 62 (36.3%) | 21 (26.9%) | 41 (44.1%) | | 0.98 (0.32−2.97) |
| Higher National Diploma | 28 (16.4%) | 15 (19.2%) | 13 (14.0%) | | 0.43 (0.13−1.48) |
| More than Higher National Diploma | 63 (36.8%) | 36 (46.2%) | 27 (29.0%) | | 0.38 (0.13−1.13) |
| **Father's education** | | | | <0.001** | |
| Primary | 11 (6.6%) | 4 (5.3%) | 7 (7.7%) | | 1 |
| Secondary | 79 (47.3%) | 26 (34.2%) | 53 (58.2%) | | 1.17 (0.31−4.34) |
| Higher National Diploma | 21 (12.6%) | 8 (10.5%) | 13 (14.3%) | | 0.93 ((0.21−4.21) |
| More than Higher National Diploma | 56 (33.5%) | 38 (50.0%) | 18 (19.8%) | | 0.27 (0.07−1.05) |
| **Mother's professional status** | | | | <0.001* | |
| Full-time | 67 (39.2%) | 42 (53.8%) | 25 (26.9%) | | 1 |
| Part-time | 25 (14.6%) | 12 (15.4%) | 13 (14.0%) | | 1.82 (0.72−4.60) |
| Other | 79 (46.2%) | 24 (30.8%) | 55 (59.1%) | | 3.85 (1.93−7.67) |
| **Language spoken with child at home** | | | | <0.001* | |
| French | 62 (36.3%) | 39 (50.0%) | 23 (24.7%) | | 1 |
| French and other | 74 (43.3%) | 21 (26.9%) | 53 (57.0%) | | 4.28 (2.08−8.81) |
| Other | 35 (20.5%) | 18 (23.1%) | 17 (18.3%) | | 1.69 (0.69−3.71) |

Data are described in numbers (%) for qualitative variables and in mean (+/- standard deviation) or median (interquartile range) for quantitative variables with normal and non-normal distribution, respectively.
CI: confidence Interval; OR: odds ratio.
*Pearson's Chi-square; **Fisher−Freeman−Halton exact test; ***$t$-test; ****Mann−Whitney $U$ test.

language spoken at home other than French was a risk factor for high exposure to screens.

Other significant results were observed: High levels of parental screen time were associated with the most exposed group; a deleterious effect on screen time was associated with (a) screen used during the main daily routine times (e.g., at mealtime, naptime, or evening bedtime), (b) background television, (c) the child choosing the program alone, (d) the child being on a YouTube site, and (e) the content not being commented on by an adult. One main "reason for using screens" was also associated with a high level of screen exposure: "to calm down the child" (see details in Table 2).

### 3.3.2. Multivariate analysis

In the final model, after adjusting for confounders, several variables remained significant: An increased risk of being in the most exposed group was associated with: the child's age (adjusted OR: 1.33; 95% CI: 1.19−1.49), parent's total screen time (adjusted OR: 1.21; 95% CI: 1.02−1.42) and background television "every day or almost every day" (adjusted OR: 13.6; 95% CI: 2.44−75.88). A very strong association was found between children put in front of a screen "to be calmed" and the risk of being in the most exposed group (adjusted OR: 37.02; 95% CI: 7.71−177.79). Conversely, reading books "every day or almost every day" was the only factor associated with a decreased risk of being in the most exposed group to screens (adjusted OR: 0.06; 95% CI: 0.01−0.34).

## 4. Discussion

To our knowledge, our study is the most comprehensive research published in a peer-reviewed journal on the use of screens by 2-year-olds in France since the COVID-19 lockdown. Children are exposed to screens at an early age and for some of them, significantly: 1 h per day at the age of 2 years and most often since the age of 12 months. Few data are available in France on this topic. In 2018, private practice pediatricians collected data on their clients' children under the age of 3, but only 10% of French pediatricians who were surveyed responded, which may explain the surprisingly low figure reported of 11 min of screen exposure per day [14].

A US study in 2020 (before the COVID-19 pandemic confinement) found figures closer to those of our work with an average of 49 min per day in children under 2 years and an average of 2.5 h per day in those aged 2−4 years [15]. In the ELFE cohort, in 2013, 45.2% of children aged 2 years watched television for more than 30 min a day during the week and 48.4% watched it for more than 90 min in total at the weekend [10,11]. The survey commissioned by the National Union of Family Affairs carried out in France by IPSOS in 2021 found a cumulative screen time of 3 h per day for children aged 0−2 years, all screens combined [12].

We were also interested in the type of content viewed by the children and found that, although they were only 2 years old, one quarter of them (27.3%) chose alone what they watched. This probably explains why this content was generally recreational and not very educational (mainly from YouTube) and why their parents did not comment on it (only 26.1% of parents comment on the content viewed by their children). We can therefore see that the recommendations made several years ago, such as "no screens before the age of three" or "share what you watch with your child," are not followed in the population we interviewed. This lack of adherence to recommendations on screen use has been reported in most countries [9,16].

In our study, children of non-working mothers were more likely to spend more than 1 h a day in front of screens. This link was also noted in the ELFE study: Children who spent more than 30 min in

**Table 2**
Univariate analysis: other factors associated with screen exposure.

| Explanatory variables | Total | Time <1 h | Time≥1 h | p | Gross OR (95% CI) |
|---|---|---|---|---|---|
| **Parent total daily screen time in hours** | 3.0 (2.0−5.0) | 2.8 (1.0−4.0) | 4.0 (3.0−6.0) | <0.001**** | 1.26 (1.10−1.44) |
| **Reading books to the child** | | | | <0.001* | |
| Never or almost never | 28 (16.4%) | 5 (6.4%) | 23 (24.7%) | | 1 |
| Sometimes | 44 (25.7%) | 16 (20.5%) | 28 (30.1%) | | 0.38 (0.12−1.20) |
| Often | 35 (20.5%) | 13 (16.7%) | 22 (23.7%) | | 0.37 (0.11−1.20) |
| Every day or almost every day | 64 (37.4%) | 44 (56.4%) | 20 (21.5%) | | 0.10 (0.03−0.30) |
| **TV in the background** | | | | <0.001* | |
| Never or almost never | 77 (45.0%) | 50 (64.1%) | 27 (29.0%) | | 1 |
| Sometimes | 33 (19.3%) | 14 (17.9%) | 19 (20.4%) | | 2.51 (1.09−5.79) |
| Often | 24 (14.0%) | 7 (9.0%) | 17 (18.3%) | | 4.50 (1.66−12.19) |
| Every day or almost every day | 37 (21.6%) | 7 (9.0%) | 30 (32.3%) | | 7.94 (3.08−20.45) |
| **Screens at mealtime/naptime/evening bedtime** | | | | <0.001* | |
| Never or almost never | 79 (46.2%) | 53 (67.9%) | 26 (28.0%) | | 1 |
| Sometimes | 41 (24.0%) | 16 (20.5%) | 25 (26.9%) | | 3.19 (1.46−6.97) |
| Often | 19 (11.1%) | 4 (5.1%) | 15 (16.1%) | | 7.64 (2.31−25.35) |
| Every day or almost every day | 32 (18.7%) | 5 (6.4%) | 27 (29.0%) | | 11.01 (3.80−31.88) |
| **Sites viewed (N = 171/78/93)** | | | | | |
| YouTube | 113 (66.1%) | 35 (44.9%) | 78 (83.9%) | <0.001* | 6.34 (3.14−13.00) |
| Netflix | 34 (19.9%) | 12 (15.4%) | 22 (23.7%) | 0.18* | 1.70 (0.78−3.71) |
| Gulli | 49 (28.7%) | 16 (9.4%) | 33 (35.5%) | 0.03* | 2.13 (1.06−4.27) |
| Others | 25 (14.6%) | 7 (9.0%) | 18 (19.4%) | 0.06* | 2.43 (0.96−6.18) |
| **Child chooses alone** | | | | <0.001* | |
| Never or almost never | 72 (43.6%) | 49 (68.1%) | 23 (24.7%) | | 1 |
| Sometimes | 24 (14.5%) | 10 (13.9%) | 14 (15.1%) | | 2.98 (1.15−7.72) |
| Often | 24 (14.5%) | 6 (8.3%) | 18 (19.4%) | | 6.39 (2.24−18.23) |
| Every day or almost every day | 45 (27.3%) | 7 (9.7%) | 38 (40.9%) | | 11.57 (4.49−29.79) |
| **Content selected and commented on by adult** | | | | <0.001* | |
| Never or almost never | 49 (29.7%) | 9 (12.5%) | 40 (43.0%) | | 1 |
| Sometimes | 41 (24.8%) | 18 (25.0%) | 23 (24.7%) | | 0.29 (0.11−0.74) |
| Often | 32 (19.4%) | 14 (19.4%) | 18 (19.4%) | | 0.29 (0.11−0.79) |
| Every day or almost every day | 43 (26.1%) | 31 (43.1%) | 12 (12.9%) | | 0.09 (0.03−0.23) |
| **Reasons for using screens** | | | | | |
| To calm down | 65 (38.0%) | 15 (19.2%) | 50 (53.8%) | <0.001* | 4.88 (2.44−9.79) |
| To play | 28 (16.4%) | 7 (9.0%) | 21 (22.6%) | 0.02* | 2.96 (1.18−7.39 |
| To help with eating | 27 (15.8%) | 8 (10.3%) | 19 (20.4%) | 0.07* | 2.25 (0.92−5.46) |
| To fall asleep | 10 (5.8%) | 2 (2.6%) | 8 (8.6%) | 0.11** | 3.58 (0.74−17.37) |
| To learn a language | 35 (20.5%) | 10 (12.8%) | 25 (26.9%) | 0.02* | 2.5 (1.12−5.60) |
| To develop awareness | 66 (38.6%) | 21 (26.9%) | 45 (48.4%) | 0.01* | 2.55 (1.34−4.85) |
| To allow parents to do something else | 68 (39.8%) | 27 (34.6%) | 41 (44.1%) | 0.21* | 1.49 (0.80−2.77) |
| To talk with family | 42 (24.6%) | 18 (23.1%) | 24 (25.8%) | 0.68* | 1.16 (0.57−2.34) |
| For another reason | 23 (13.5%) | 9 (11.5%) | 14 (15.1%) | 0.50* | 1.36 50.55−3.33) |

Data are described in numbers (%) for qualitative variables and in mean (+/- standard deviation) or median (interquartile range) for quantitative variables with normal and non-normal distribution, respectively.
CI: confidence interval; OR: odds ratio.
*Pearson's chi-square; ****Mann−Whitney $U$ test.

front of a screen during the week were most often looked after by their mother at home [11]. This result is confirmed by the protective effect of daycare in our univariate analysis. This is in line with another result noted in our study and frequently reported elsewhere: Children's screen time is linked to parents' screen time [17]. Our study also showed that about one third of families (35.6%) "often" or "always" left the television on in the background. Again, these results are closer to those of the American study (39% of families leave the television on in the background) than to those of the French pediatricians' study (20%) [14,15]. Background television has long been discouraged in American recommendations because of the recognized effects on language or emotional regulation ("turn off the screens when not in use"), and by those recently issued by the French general pediatric group [7,18].

The strongest association found in our study (with an OR of 37) perhaps sheds light on parents' current motivations for putting their child in front of a screen: 38% of parents said they use screens to "calm their children," with only 19.2% in the "less exposed" group but 53.8% in the "more exposed" group. A US study of children aged between 6 months and 4 years from a low-income urban environment had already shown that 65% of parents used screens to calm their children [19]. Several studies of young children have shown an

association between children with socio-emotional difficulties and increased exposure to screens [20]. The associations found in the literature were most often bidirectional: It was the most difficult children who were put in front of a screen for the longest time, which made them even more difficult [21]. Interestingly, reading books to the child by parents was one of the main protective factors (OR: 0.10; 0.03−0.30; if done every day or almost every day). A similar result has been found in the ELFE study in which the adherence to the no-screen guidelines was positively associated with a parental literate activity pattern [10].

Our study has different strengths and limitations. The population of our study was recruited in general wards of three public hospitals in east Paris in order to collect information on children without chronic pathology. The population sample was not strictly representative of the French population, but the three sites were chosen to explore a diverse population with varied socio-professional categories and thus to try to minimize selection bias as much as possible. Our study was carried out in the summer (between June and August 2020), and thus it is possible that screen time does not reflect that of the rest of the year: Indeed, the ELFE cohort study showed that screen time was higher in spring and lower in summer [11]. In addition, participants may have given answers that they perceived as being

> **Box 1  Main recommendations for parents to be displayed in the maternity ward**
>
> - When you look at your child, they feel loved and safe.
> - Meals are essential times of interactions to be preserved.
> - Your child develops language and intelligence by playing in the real world with real people.
> - Screens hook the attention of children and adults and limit communication.
> - Outdoors, your child exercises all their senses, discovers the world and improves motor skills.
> - Interaction between parents and children is the basis of all learning.
> - Reading with your child improves language and provides a precious moment for both of you.
> - Calming a child with a screen prevents them from learning how to manage their emotions.

consistent with the answers sought by the investigator or as socially acceptable, which constitutes a well-known but usual reporting bias [22]. Screen exposure time was therefore probably underestimated in our study and probably even more so in the most exposed group. In addition, our study may have a recall bias, especially in the question about the age of first exposure to screens.

In our study, children are put in front of recreational programs with no educational content from the very first months of life and for long periods of time, contrary to the recommendations of learned societies. All these data converge toward a new use of screens: that of a "digital nanny" or "digital pacifier." Screens are used by children alone with content that they have chosen themselves, most of the time to be calmed or at least occupied. Is it the current trend in our societies to have "well-behaved children" that pushes parents to use screens in this way? Or are parents themselves so caught up in their own screens that they no longer have enough time to devote to their children's education? A growing number of studies point to this parental "technoference" that interferes in parents' and children's interactions [23−25].

## 5. Conclusion

In view of these results, it is important to strengthen information on children's screen use in France for parents generally as well as for situations when children use screens alone and when together with the parents. Health professionals working with children should take particular care to raise awareness among non-working mothers and parents who spend a lot of time on screens themselves. First, they should repeat the well-known advice: "no screen for under-3 s." They should also provide information about the risks of background television and promote parent−child interaction activities without screens including reading books. And finally, they should explain that parents should set an example by not being constantly connected. Our results show that these warnings must be given to parents as soon as possible and repeated throughout the children's early years. As a result, we have developed a special poster (titled "Do not search for your child on Instagram, he is in your arms") within our association _Collectif surexposition écrans_ (Screen Overexposure Collective) [26]. It includes our main recommendations and we propose it be displayed prominently in maternity wards (Box 1).

## Declaration of Competing Interest

None.

## References

[1] Madigan S, Browne D, Racine N, et al. Association between screen time and children's performance on a developmental screening test. JAMA Pediatr 2019;173:244−50.

[2] Tamana SK, Ezeugwu V, Chikuma J, et al. Screen-time is associated with inattention problems in preschoolers: results from the CHILD birth cohort study. PLoS One 2019;14:e0213995.

[3] Beyens I, Nathanson AI. Electronic media use and sleep among preschoolers: evidence for time-shifted and less consolidated sleep. Health Commun 2019;34:537−44.

[4] Qu G, Hu W, Meng J, et al. Association between screen time and developmental and behavioral problems among children in the United States: evidence from 2018 to 2020 NSCH. J Psychiatr Res 2023;161:140−9.

[5] Dieu-Osika S, Bossière MC, Osika E. Early media overexposure syndrome must be suspected in toddlers who display speech delay with autism-like symptoms. Glob Pediatr Health 2020;7 2333794X20925939.

[6] Aishworiya R, Magiati I, Phua D, et al. Are there bidirectional influences between screen time exposure and social behavioral traits in young children? J Dev Behav Pediatr 2022;43:362−9.

[7] Council on Communications and Media. Media and young minds. Pediatrics 2016;138:e20162591.

[8] World Health Organization. Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Geneva: World Health Organization; 2019. [Internet]Disponible sur: https://apps.who.int/iris/handle/10665/311664.

[9] Madigan S, Racine N, Tough S. Prevalence of preschoolers meeting vs exceeding screen time guidelines. JAMA Pediatr 2020;174:93−5.

[10] Poncet L, Saïd M, Gassama M, et al. Sociodemographic and behavioural factors of adherence to the no-screen guideline for toddlers among parents from the French nationwide Elfe birth cohort. Int J Behav Nutr Phys Act 2022;19:104.

[11] Gassama M, Bernard J, Dargent-Molina P, et al. Activités physiques et usage des écrans à l'âge de 2 ans chez les enfants de la cohorte Elfe. Paris, Inserm, Cress, Ined. Rapport à la Demande et Avec le Soutien de la Direction Générale de la Santé; 2018. novembre https://www.ined.fr/fichier/rte/129/cote-recherche/Publications/Activite%20physique%20et%20ecrans_2%20ans_enfants%20Elfe.pdf.

[12] IPSOS. Les jeunes enfants et les écrans. UNAF; 2022. [Internet]Disponible sur: https://www.unaf.fr/app/uploads/sites/3/2022/02/etude-openunafipsos-lv.pdf.

[13] Junior Connect' 2018 - Jeunes et medias: une consommation toujours dynamique et diversifiée!. Ipsos; 2018. [Internet][cité 15 juin 2019]. Disponible sur: https://www.ipsos.com/fr-fr/junior-connect-2018-jeunes-et-medias-une-consommation-toujours-dynamique-et-diversifiee.

[14] Assathiany R, Guery E, Caron FM, et al. Children and screens: a survey by French pediatricians. Arch Pediatr 2018;25:84−8.

[15] Rideout V, Robb MB. The common sense census: media use by kids age zero to eight, 2020. San Francisco, CA: Common Sense Media; 2020. [Internet] Disponible sur: https://www.commonsensemedia.org/sites/default/files/research/report/2020_zero_to_eight_census_final_web.pdf.

[16] McNeill J, Howard SJ, Vella SA, et al. Compliance with the 24-hour movement guidelines for the early years: cross-sectional and longitudinal associations with executive function and psychosocial health in preschool children. J Sci Med Sport 2020;23:846−53.

[17] Duch H, Fisher EM, Ensari I, et al. Screen time use in children under 3 years old: a systematic review of correlates. Int J Behav Nutr Phys Act 2013;10:102.

[18] Picherot G, Cheymol J, Assathiany R, et al. Children and screens: Groupe de Pédiatrie Générale (Société française de pédiatrie) guidelines for pediatricians and families. Arch Pédiatr 2018;25:170−4.

[19] Kabali HK, Irigoyen MM, Nunez-Davis R, et al. Exposure and use of mobile media devices by young children. Pediatrics 2015;136:1044−50.

[20] Radesky J, Miller AL, Rosenblum KL, et al. Maternal mobile device use during a structured parent-child interaction task. Acad Pediatr 2015;15:238−44.

[21] Cliff DP, Howard SJ, Radesky JS, et al. Early childhood media exposure and self-regulation: bi-directional longitudinal associations. Acad Pediatr 2018;18:813−9.

[22] Byrne R, Terranova CO, Trost SG. Measurement of screen time among young children aged 0-6 years: a systematic review. Obes Rev 2021;22:e13260.

[23] Krapf-Bar D, Davidovitch M, Rozenblatt-Perkal Y, et al. Maternal mobile phone use during mother-child interactions interferes with the process of establishing joint attention. Dev Psychol 2022;58:1639−51.

[24] McDaniel BT, Radesky JS. Technoference: parent distraction with technology and associations with child behavior problems. Child Dev 2018;89:100−9.

[25] Osika E. The negative effects of new screens on the cognitive functions of young children require new recommendations. Ital J Pediatr 2021;47:223.

[26] CoSE. La nouvelle affiche CoSE décoiffe !! [Internet]. CoSE - Collectif surexposition écrans. [cité 22 mars 2023]. Disponible sur: https://surexpositionecrans.fr/une-affiche-pour-toutes-les-maternites/.